

What is Claimed is:

1. An injection molding method for obtaining a molded product consisting of a skin layer and a core layer by injecting a skin layer resin and a core layer resin from a skin injection unit and a core injection unit respectively into a metal mold, comprising the steps of:

injecting said skin layer resin from said skin injection unit into said metal mold, wherein the value of injection pressure is a predetermined value of the initial skin layer injection pressure;

injecting said core layer resin from said core injection unit into said metal mold after a predetermined length of time is passed from the start of injection of said skin layer resin, wherein the value of injection pressure is a predetermined value of the initial core layer injection pressure and said initial core layer injection pressure value is greater than the value of said initial skin layer injection pressure;

changing said skin layer resin injection pressure to a predetermined value of the skin layer dwelling pressure after a predetermined length of time is passed from the start of injection of said core layer resin, wherein the value of said skin layer dwelling pressure is smaller than the value of said initial skin layer injection pressure;

changing said core layer resin injection pressure to a predetermined value of the core layer resin dwelling pressure after a predetermined length of time is passed from the time that the said skin layer resin injection pressure turns to the value of said skin layer dwelling pressure, wherein the said core layer dwelling pressure is smaller than the value of said initial core layer injection pressure and greater than the value of said skin layer dwelling pressure; and

maintaining the state that the value of said core layer dwelling pressure is greater than the value of said skin layer dwelling pressure over a predetermined length of time.

2. An injection molding method according to Claim 1, wherein the injection capacity of said core injection unit is equal to or less than the injection capacity of said skin injection unit.

3. The injection molding method according to Claim 2, wherein the amount of said core layer resin to be injected is smaller than the amount of said skin layer resin to be injected.

4. The injection molding method according to Claim 1, wherein the value of the skin resin injection pressure by said skin injection unit is reduced step by step after the start of injection of said core layer resin from said core injection unit into said metal mold.

5. The injection molding method according to Claim 4, wherein the value of said skin resin injection pressure by said skin injection unit is set to a value of pressure smaller than the value of said skin layer dwelling pressure before it is changed to the value of said skin layer dwelling pressure.

6. The injection molding method according to Claim 1, at least one of the value of said core layer resin injection pressure and the value of said skin layer resin injection pressure is reduced step by step after the state that the value of said core layer dwelling pressure is larger than the value of said skin layer dwelling pressure is maintained over the predetermined length of time.

7. The injection molding method according to Claim 1, wherein the value of said initial core layer injection pressure is set larger than the value of said initial skin layer injection pressure to be sufficient for compensating the volumetrically reduced quantity of said skin layer resin at the time of cooling and solidification.

8. The injection molding method according to Claim 1, wherein the value of said core layer dwelling pressure is set larger than the value of said skin layer dwelling pressure to be sufficient for compensating the volumetrically reduced quantity at the time of cooling and solidification of said skin layer resin.

9. The injection molding method according to Claim 1, wherein the value of said initial core layer injection pressure is set larger than the value of said initial skin layer injection pressure and the value of said core layer dwelling pressure is set larger than the value of said skin layer dwelling pressure, respectively, to be sufficient for compensating the volumetrically reduced quantity at the time of cooling and solidification of said skin layer resin.

10. The injection molding method according to Claim 1, wherein said core layer resin and said skin layer resin is homogeneous or have compatibility while being heterogeneous.

11. An injection molding apparatus for obtaining a molded product consisting of a skin layer and a core layer comprising:

a metal mold;

a skin injection unit for injecting a skin layer resin into said metal mold;

a core injection unit for injecting a core layer resin into said metal mold, wherein the injection capacity of said core injection unit is equal to or less than the injection capacity of said skin injection unit;

a skin layer resin injection pressure control means for controlling the magnitude of the injection pressure of said skin layer resin;

a core layer resin injection pressure control means for controlling the magnitude of the injection pressure of said core layer resin; and

an injection control device for controlling said skin injection unit, said core injection unit, said core layer resin injection pressure control means,

and said skin layer resin injection pressure control means to perform the injection molding method as defined in Claim 1.

12. A molded product formed by the injection molding method of Claim 1.

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